facilities from third parties, it has maintained fulsome unbundling requirements, ensuring that competitive providers continue to offer alternatives to Qwest's offerings, using Qwest's own facilities at TELRIC rates. Of equal importance, intermodal competitors are providing a very real substitute for these wireline offerings, in the small, medium, and large enterprise markets alike.

A. Wireline Competition

As a result of the Commission's investment-oriented approach to competition, incumbents and competitors have in recent years continued to expand their fiber-optic infrastructures, and consumers have reaped the rewards. Nationwide, 92,492 buildings were "lit" at the close of 2006, with more than 23,300 of those buildings having been "lit" between 2003 and 2006. Deployment, moreover, has not been limited to one particular market segment: As of 2006, about 72 percent of office buildings housing more than 250 workers were connected to fiber-optic facilities. But in the four years from 2003 to 2006, inclusive, the market segment composed of buildings housing fewer than 100 employees experienced more growth in fiber deployment than any other segment. The number of fiber-fed buildings with 20 to 50 workers grew by 62 percent during that period (from 8,687 buildings to 14,056 buildings), and the number of fiber-fed buildings with 51 to 100 workers grew by 39 percent (from 13,245 buildings to 18,359 buildings). As one recent report states, referring only to wireline providers: "[w]ith over 45 competitors, the degree of competition within the wholesale private line market is highly

⁵⁰ U.S. Business: Change in Fiber Availability - 2003 vs. 2006, Vertical Systems Group 2006. Used with permission from Vertical Systems Group, Inc. Copyright 2007. All rights reserved.

⁵¹ *Id.*

intense," and "[t]he local access market has a degree of competition which is even more intense." 52

In its recent section 272 sunset proceeding addressing Qwest's request for forbearance from certain dominant-carrier requirements, the Commission relied upon survey data compiled by third-party vendor Harte Hanks and submitted into the record by Qwest.⁵³ These same data provide a clear picture of the extensive wireline competition Qwest faces in the provision of high-capacity transmission services in the enterprise market. Harte Hanks surveyed high-capacity end users to determine the state of the market in each Qwest state. The chart below summarizes the Harte Hanks findings on a state-by-state level and across Qwest's fourteen-state region, reporting for each state (1) the percentage of all DS1 circuits provided to end users by entities other than Qwest; (2) the number of providers other than Qwest providing those DS1 services, (3) the percentage of all DS3 circuits provided to end users by entities other than Qwest; and (4) the number of providers other than Qwest providing those DS3 services:⁵⁴

⁵² Frost & Sullivan, North American Wholesale Private Line Services at 1-28 (2007) ("Frost & Sullivan").

⁵³ See Petition of Qwest Communications International Inc. for Forbearance from Enforcement of the Commission's Dominant Carrier Rules As They Apply After Section 272 Sunsets, 22 FCC Rcd 5207, 5221 ¶ 23 n.82 (2007); Letter from Melissa E. Newman, Qwest, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 05-333 (filed Jan. 19, 2007).

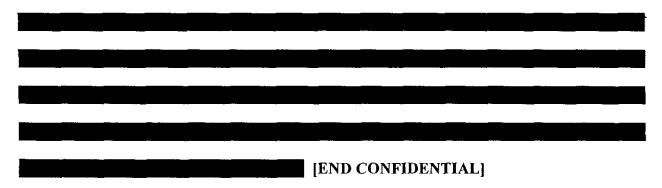
Harte Hanks included an "Other" category in its survey results, and there is no indication whether figures reported in the "Other" category represent a single provider or (more likely) more than one provider other than those listed by name. Qwest has taken the conservative approach of assuming that all "Other" responses in a given state collectively represent a single provider. Furthermore, because the Harte Hanks data are based on primary research drawn from a sample of enterprise business customers, there could be additional providers not accounted for in the responses obtained. For these reasons, all entries in the chart below indicate that the number of providers either equals or exceeds ("\geq") the number reported.

[BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]

As the chart makes clear, competition in the provision of DS1 and DS3 circuits to enterprise users is strong throughout Qwest's region. [BEGIN CONFIDENTIAL]

⁵⁵ Harte Hanks asked enterprise end users to name the entity providing their service. It is possible – indeed, very likely – that at least some of the alternative providers rely on Qwest's underlying high-capacity facilities, which they obtain either as UNEs or as special access services. As demonstrated below, however, there is substantial facilities-based competition within Qwest's region, indicating that many of the competitors whose offerings are reflected in this chart rely in whole or in part on non-Qwest facilities.



In addition to the end-user services described above (which compete with Qwest's retail special access offerings), competitors in Qwest's region are also using wireline facilities to provide wholesale services. AT&T cites its "[y]ears of experience serving wholesale customers, targeted investment in [its] network and technology innovation," and "dedicated sales, customer care and global operations teams" as key selling points. Covad offers facilities-based transmission services, including DSL, Frame Relay, and DS1 links, relying on over 2,000 collocations throughout 235 MSAs nationwide, including many in Qwest's territory. XO provides wholesale services to competitive LECs and interexchange carriers, as well as to wireless, cable, and voice over Internet protocol providers. Level 3 provides competitive wholesale service to "RBOCs, major IXCs, major foreign PTTs, major ISPs and Portals, Media Companies, wireless companies, satellite companies, established CLECs, system integrators, academia and content providers." Other facilities-based providers, including Time Warner

⁵⁶ See, e.g., Denver Declaration at \P 52.

⁵⁷ See, e.g., id. at ¶ 53.

⁵⁸ See, e.g., id. at ¶ 54.

⁵⁹ See, e.g., id. at ¶ 55.

Telecom, Adesta, Integra/Electric Lightwave, Onvoy, Global Crossing, and SRP Telecom, also provide competitive wholesale service in Qwest markets.⁶⁰

Finally, it is critical to recognize that any analysis of the high-capacity wireline transmission market – especially in the small and medium enterprise spaces – must account for xDSL offerings, which in many cases are substitutes for DS1 links.⁶¹ xDSL speeds have risen significantly in recent years, and in most cases surpass the 1.54 Mbps offered by a DS1 circuit.⁶² Thus, this traditionally "residential" offering can now meet the needs of many small and medium-sized businesses, at costs far below those associated with high-capacity TDM links. Moreover, Qwest and its competitors are currently providing these offerings broadly within Qwest's territory, over facilities that are deployed to over 80 percent of the customers in Qwest's region and available as UNEs in almost every one of Qwest's 1,200 or so wire centers.⁶³ Thus, even aside from the Harte Hanks data presented above, arguments resting on the alleged paucity of competition at the DS1 level are misguided at best.

⁶⁰ See id. at ¶¶ 50-57; Seattle Declaration at ¶¶ 39-45; Phoenix Declaration at ¶¶ 47-54; Minneapolis-St. Paul Declaration at ¶¶ 54-62.

⁶¹ See, e.g., Declaration of Thomas Cogan at ¶ 4 ("Cogan Decl.") (appended hereto as Exhibit 1).

⁶² Qwest now offers xDSL service reaching speeds between 3 and 5 Mbps for less than \$30 per month. Many other LECs offer speeds that are similar or much higher. See generally Comments of AT&T Inc., Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable And Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, GN Docket No. 07-45 at 7 (filed May 16, 2007) (reporting AT&T DSL product offering speeds up to 6 Mbps); Comments of Covad Communications Co., Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable And Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, GN Docket No. 07-45 at 3 (filed May 16, 2007) (describing Covad's ADSL2+ network, "capable of providing customers broadband connections with data speeds of up to 25 Mbps").

⁶³ Qwest has won relief from its obligation to unbundle DS0 loops pursuant to section 251(c)(3) in a handful of its wire centers within the Omaha MSA, but still faces a mandate to provide access to these facilities at "just and reasonable" rates and terms under section 271. See Qwest Omaha Order, 20 FCC Rcd at 19417 ¶ 2.

1. Facilities-Based Competition.

The Commission's deregulatory policies with regard to enterprise-market loop and transport facilities and residential fiber have prompted a boom in fiber deployment. Between 2003 (when the Commission issued the *TRO*) and 2006, fiber deployment by telephone companies quadrupled.⁶⁴ In 2006 alone, wireline providers deployed 9.7 million miles of fiber.⁶⁵ The Telecommunications Industry Association expects that fiber deployment will grow by about 7.2 percent per year between 2007 and 2010.⁶⁶

Any claim that fiber deployment has been the exclusive domain of in-region incumbent LECs, however, can and should quickly be dismissed. Qwest's in-region experience amply demonstrates the extensive deployment that has occurred over the past several years. At the close of 2006, metropolitan areas in Qwest's region each boasted multiple fiber networks. The extent of competition in several such areas is described in detail in four petitions the company filed with the Commission on April 27, 2007. The data submitted with these petitions paint a stunning picture of the extent to which facilities-based providers have made inroads in these markets:

• Denver: According to GeoTel, which tracks metropolitan fiber routes in cities throughout the United States, about [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] competitors unaffiliated with Qwest have placed about

⁶⁴ KMI Research, a division of CRU Group (www.crugroup.com), as published in TIA's 2007 Telecommunications Market Review and Forecast at 94.

⁶⁵ See id. According to the Commission's statistics, the number of residential customers receiving fiber-based broadband has skyrocketed, from 111,386 subscribers in 2003 to 700,083 subscribers – 628 percent as many – in June 2006. Report, *High-Speed Services for Internet Access: Status as of June 30, 2003*, Industry Analysis and Technology Division, Wireline Competition Bureau, FCC, at Table 1 (rel. Dec. 2003); Report, High-Speed Services for Internet Access: Status as of June 30, 2006, Industry Analysis and Technology Division, Wireline Competition Bureau, FCC, at Table 1 (rel. Jan. 2007).

⁶⁶ See Telecommunications Industry Association, TIA'S 2007 TELECOMMUNICATIONS MARKET REVIEW AND FORECAST 95 (2007).

[BEGIN CONFIDENTIAL] [END CONFIDENTIAL] miles of fiber-optic plant in the Denver MSA. Indeed, [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] percent of Qwest's wire centers are home to one or more fiber-based competitors. These wire centers account for [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] percent of Qwest's retail residential lines and [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] percent of its retail business lines. In all, competitive fiber serves almost [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] buildings within the MSA. Competitors are using this capacity to win retail and wholesale customers from Qwest within the MSA.

- Phoenix: According to GeoTel, about [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] competitors unaffiliated with Qwest have placed about [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] miles of fiber-optic plant in the Phoenix MSA. [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] percent of Qwest's wire centers are home to one or more fiber-based competitors. These wire centers account for [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] percent of Qwest's retail residential lines and [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] percent of its retail business lines. In all, competitive fiber serves more than [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] buildings within the MSA. Here, too, competitors are using their capacity to challenge Qwest for retail and wholesale customers within the MSA.
- Seattle: According to GeoTel, about [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] competitors unaffiliated with Qwest have placed about [BEGIN CONFIDENTIAL] [END CONFIDE

⁶⁷ See Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Denver, Colorado Metropolitan Statistical Area, WC Docket No. 07-97, Declaration of Robert H. Brigham and David L. Teitzel (filed Apr. 27, 2007) at ¶¶ 10, 34 ("Denver Declaration") (appended hereto as Exhibit 2); Letter from Melissa E. Newman, Qwest, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 07-97 (Aug. 3, 2007) (supplying Erratum to Denver Declaration) (appended hereto as Exhibit 3).

⁶⁸ See Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Phoenix, Arizona Metropolitan Statistical Area, WC Docket No. 07-97, Declaration of Robert H. Brigham and David L. Teitzel (filed Apr. 27, 2007) at ¶¶ 10, 34 ("Phoenix Declaration") (appended hereto as Exhibit 4).

MSA.⁶⁹ Once more, competitors are using this capacity to challenge Qwest for retail and wholesale customers within the MSA.

• Minneapolis/St. Paul: According to GeoTel, approximately 45 competitors unaffiliated with Qwest have placed about [BEGIN CONFIDENTIAL] [END CONF

These data points demonstrate the general principles discussed above: Competitors have deployed extensive fiber-optic facilities, and are using those facilities to compete against Qwest in the wholesale and retail markets for high-capacity services.

2. UNE-Based Competition

The data described above demonstrate robust facilities-based competition in Qwest's inregion territory. Importantly, however, wireline competitors are also providing service throughout Qwest's region using DS1- and DS3-capacity loops and transport links acquired as unbundled network elements ("UNEs") under section 251(c)(3) of the Act. UNE-based competition permits competitors to offer service without undertaking significant network

⁶⁹ See Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Seattle, Washington Metropolitan Statistical Area, WC Docket No. 07-97, Declaration of Robert H. Brigham and David L. Teitzel (filed Apr. 27, 2007) at ¶¶ 10, 37 ("Seattle Declaration") (appended hereto as Exhibit 5); Letter from Melissa E. Newman, Qwest, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 07-97 (Aug. 3, 2007) (supplying Erratum to Seattle Declaration) (appended hereto as Exhibit 6).

⁷⁰ See Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Minneapolis-St. Paul, Minnesota Metropolitan Statistical Area, WC Docket No. 07-97, Declaration of Robert H. Brigham and David L. Teitzel (filed Apr. 27, 2007) at ¶¶ 10, 37 ("Minneapolis-St. Paul Declaration") (appended hereto as Exhibit 7).

investment or business risk. This competition must be accounted for here, because – as the Commission has held – "the availability of UNEs is itself a check on special access pricing[.]"⁷¹

High-capacity transmission UNEs remain available to requesting carriers throughout the great majority of Qwest's wire centers. Notwithstanding the extensive fiber deployment described above, only about [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] percent of Owest's wire centers are currently subject to any high-capacity loop or transport unbundling relief under the framework set forth in the TRRO. Region-wide, Owest provides BEGIN CONFIDENTIAL [END CONFIDENTIAL] unbundled highcapacity loops to **IBEGIN CONFIDENTIAL** [END CONFIDENTIAL] and [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] high-capacity transport links to **IBEGIN** CONFIDENTIAL [END CONFIDENTIAL] competitive LECs. Given the nearly ubiquitous availability of these facilities at TELRIC rates throughout Qwest's territory, calls for a return to price-cap regulation seem especially misguided.

B. Intermodal Competition

As discussed above, the courts and the Commission have repeatedly recognized that analyses of a market's competitiveness must account for all intermodal offerings that serve as

TRRO, 20 FCC Rcd at 2574 ¶ 65. Although the Commission has clarified that providers may not use UNEs solely for the provision of mobile wireless services, see id. at 2551-58 ¶¶ 34-40, this limitation does not exempt base station-to-switching center links from the pricing discipline imposed by the availability of unbundled transport. Competitive LECs can and do use UNEs to provide wholesale transmission that competes against Qwest's special access offerings – and can use that transmission to serve wireless carriers as long as this is not its only use. Moreover, as common carriers subject to sections 201 and 202 of the Act, incumbent LECs generally must make their special access offerings available on just and reasonable terms free of unreasonable discrimination. See 47 U.S.C. §§ 201, 202. As such, plans and discounts available to competitive LECs will generally be available to all providers, and even those not eligible for UNEs will benefit from the downward pressure exerted by other providers' continued access to UNEs.

substitutes for the offering under consideration. Recent years have seen a dramatic proliferation of point-to-point transmission offerings that serve – and will increasingly serve – as alternatives to the traditional common-carrier wireline offerings provided by Qwest, other incumbent LECs, and other interexchange carriers. The evidence also demonstrates an increasing challenge posed by intermodal competitors in the high-capacity transmission market, principally from emerging wireless and cable players.

1. Wireless

Opportunities for growth of wireless special access alternatives abound, and use of such alternatives has blossomed since the Commission last sought comment on special access pricing in 2005. The growth opportunity for wireless transmission is especially promising in light of the American market's relative under-utilization of this technology. Wireless transmission services are expected to be relied on above all in the wireless retail market. According to Larry Swascy of wireless market research firm Visant Strategies, "[r]oughly 20% of mobile base stations in the United States are backhauled via wireless technologies today," whereas "globally 65% of mobile base stations are linked via wireless backhaul. We see the number of base stations in the US using wireless for backhaul almost doubling by 2011 to help provide this higher backhaul capacity." This expansion will be fueled by the transition from 2G wireless services to 3G and 4G services.

Microwave. Fixed wireless operators using millimeter-wave spectrum in the Local Multipoint Distribution Service ("LMDS") and other bands have rapidly been building out

⁷² Visant Strategies, US Mobile Backhaul: Evolving Market 2007, available at http://www.visantstrategies.com/Prback2007.html.

⁷³ See generally Infonetics Research, Service Provider Plans for Next Gen Mobile and Wireless Broadband: North America, Europe, and Asia Pacific 2007 (March 2007) ("Infonetics").

networks offering a cost effective alternative to wireline DS1, DS3, and OCn special access and broadband Ethernet connectivity. If the experience of other nations is any guide – and there is no reason to believe otherwise – this technology is extremely well suited to compete with incumbent LEC special access. "Microwave is used extensively in Europe and Asia and is the most popular connection technology in the world." Survey data indicate that 75 percent of European providers expect to utilize microwave backhaul by 2008, while 50 percent of North American providers expected to use this technology. Microwave technology offers many of the strengths of traditional wireline special access services, but is better suited to modular deployment calibrated to the specific customer's needs. "[M]any microwave products have capacity that is turned up via software, priced per capacity increment added.... This replicates some of the flexibility of newer alternative backhaul technologies and will ensure that microwave remains a viable solution for the medium to long term."

One microwave provider, FiberTower, is "entirely focused on designing, deploying and operating facilities-based backhaul networks to deliver superior network quality for major wireless carriers." The company holds licenses in the 11, 18, 23, 24, and 39 GHz bands and has a footprint covering 99 percent of the United States, with an "[a]verage bandwidth per market of 650 MHz ... [and] 740 MHz in top markets." In pleadings to the Commission,

⁷⁴ *Id.* at 56.

⁷⁵ *Id*. at 59.

⁷⁶ *Id.* at 57.

FiberTower, Designing Superior Backhaul Networks, available at http://www.fibertower.com/corp/solutions-backhaul.shtml.

⁷⁸ FiberTower, *Spectrum Assets, available at* http://www.fibertower.com/corp/company-spectrum-assets.shtml.

FiberTower states that its product "is a cost effective, high capacity, shared infrastructure consisting of existing fiber rings supplemented with high capacity point-to-point microwave solutions." In March 2005, shortly after comments were last filed in this proceeding, it began offering "the industry's only backhaul service built expressly for wireless carriers, delivering the first alternative service that radically improves performance and raises service standards in the industry." By September 2006, FiberTower announced that it had "deployed ... 1,281 sites [and] sold over 2,750 customer locations." A November 2006 Wall Street presentation indicated that the company was already carrying about 5,000 T1 equivalents. The company now has agreements with six of the eight largest mobile wireless operators, including Sprint Nextel (its second-largest customer)⁸³ and T-Mobile. Earlier this year, FiberTower was selected by both Verizon Business and Qwest to provide last-mile fixed wireless connectivity to

⁷⁹ FiberTower, Amendment of Part 101 of the Commission's Rules to Increase Spectrum Use Through More Flexible Antenna Rules for the 10.7-11.7 GHz Band, Petition for Rulemaking, RM-11043 at 1 (filed May 26, 2004).

⁸⁰ FiberTower, FiberTower Announces Groundbreaking Backhaul Services to Help Wireless Carriers Improve Mission-Critical Networks, available at http://www.fibertower.com/corp/news-press-releases-03142005.shtml>.

⁸¹ See FiberTower, FiberTower Surpasses Operational Milestones, available at http://www.fibertower.com/corp/news-press-releases-090606-milestone.shtml.

FiberTower Corp., Presentation, JP Morgan 2007 Small/Mid Cap Conference, Nov. 15, 2006, available at http://www.fibertower.com/corp/downloads/investors/Investor_Presentation_111306_
JPM.ppt>.

⁸³ FiberTower, FiberTower Corp. Form 10-Q for the period ending March 31, 2007 at 20, available at http://www.fibertower.com/corp/downloads/investors/quarterly10Q/10Q-03-07.pdf>.

See Olga Kharif, Sprint's Secret to Cost Cutting: WiMAX, BusinessWeek (Dec. 27, 2006), available at http://www.businessweek.com/technology/content/dec2006/tc20061227_904530.htm? campaign_id=rss_tech> ("Sprint's Secret").

government agencies.⁸⁵ FiberTower also makes its spectrum available for lease to service providers wishing to construct their own backhaul networks.⁸⁶

Another supplier, Nextlink (a subsidiary of XO Communications, Inc.), has an average of nearly 1 GHz of LMDS spectrum in 75 of the top markets, which it uses to provide a "highly scalable, alternative access solution to support bandwidth-intensive, next-generation mobility applications and content, as well as a cost-effective 'last-mile' replacement of local telephone company offerings." The offering can provide service ranging from DS1 capacity levels to OC3 levels. 88 The company only began offering this service in six markets in mid-2006, 89 but by July of this year it had already expanded to 37 operating markets, where it "[p]rovides wireless service providers with a cost-effective and reliable alternative for backhaul connectivity to cell sites and leased line replacements for wireline telecommunications providers." Nextlink's

See FiberTower, Networx Overview, available at http://www.fibertower.com/corp/solutions-government-networx.shtml; Qwest, FiberTower Announces Selection As Team Member With Qwest On Federal Networx Universal Contract (Apr. 5, 2007), available at http://www.qwest.com/about/media/pressroom/1,1281,2095_archive,00.html>.

⁸⁶ See FiberTower, Solutions: Spectrum Leasing, available at http://www.fibertower.com/corp/solutions-spectrum.shtml>.

⁸⁷ Nextlink, Wireless Metro Ethernet Services, available at http://www.nextlink.com/pdf/Wireless_Metro_Ethernet.pdf.

⁸⁸ See Carol Wilson, XO Expands Broadband Wireless Coverage to 36 Markets, TELEPHONY ONLINE, July 11, 2007, available at http://money.cnn.com/news/newsfeeds/articles/prnewswire/NEW02711072007-1.htm; Kelly Hill, XO Expands Footprint, RCRWIRELESS NEWS, July 11, 2007 ("XO Expands Footprint").

⁸⁹ Yuki Noguchi, XO Ready to Revive Fixed-Wireless Technology, WASHINGTON POST, Apr. 24, 2006, at D2, available at http://www.washingtonpost.com/wp-dyn/content/article/2006/04/23/AR2006042300881.html.

⁹⁰ Nextlink, Nextlink Expands Broadband Wireless Networks Nationwide, available at http://www.nextlink.com/news-70.htm.

CEO states that the existing offering provides the company's "customers and reseller partners access to more than 5 million business locations." ⁹¹

A third microwave provider, Telecom Transport Management, Inc. ("TTM") "markets microwave transport services to mobile wireless carriers as a competitive alternative to landline facilities for carrying voice and data traffic from cell sites to mobile switching centers or other points of presence ('microwave backhaul')." TTM "provide[s] a turnkey solution for voice and data traffic.... Each TTM network is custom designed for the unique conditions of the market, both in topology and technology.... Not only do TTM's networks provide a competitive alternative to landline backhaul solutions, but [they also] enable wireless carriers quickly to meet the increased demand for backhaul generated by new 3G high speed data services." In recent comments, TTM reported that its business was "growing significantly."

WiMAX. Another wireless source of backhaul that is now emerging as an alternative to special access is WiMAX, using the 2.5 GHz Broadband Radio Service ("BRS") band.⁹⁴ "WiMAX ... is a flexible and easy-to-deploy technology, and thus is being widely evaluated as a

⁹¹ XO Expands Footprint.

⁹² Comments of Telecom Transport Management, Inc., Amendment of Part 101 of the Commission's Rules to Modify Antenna Requirements for the 10.7-11.7 GHz Band, WT Docket No. 07-54, RM-11042, at 1-2 (filed May 25, 2007).

⁹³ Reply Comments of Telecom Transport Management, Inc., Amendment of Part 101 of the Commission's Rules to Modify Antenna Requirements for the 10.7-11.7 GHz Band, WT Docket No. 07-54, RM-11042, at 1 (filed June 21, 2007).

⁹⁴ WiMAX, or Worldwide Interoperability for Microwave Access, refers to wide-area point-tomultipoint broadband transmission networks employing the IEEE 802.16 family of standards, which have gathered broad support. It is capable of providing data rates of up to 75 Mbps. See Availability of Advanced Telecommunications Capability in the United States, GN Docket 04-54, Fourth Report to Congress, FCC 04-208, at 19 (Sept. 9, 2004); see also Nancy Gohring, It's a Wi Wi World: New Wireless Technologies Extend Connectivity Near and Far, NETWORK WORLD, Mar. 15, 2004, at 60, available at http://money.cnn.com/news/newsfeeds/articles/prnewswire/NEW02711072007-1.htm: Gary Gets a Boost from WiMAX. TECHONLINE. Feb. 3. 2004. available http://www.techonline.com/community/ed resource/33185>.

possible backhaul solution." Sprint Nextel has extensive holdings in the BRS band, and has slated this spectrum for WiMAX deployment, which it plans to use as an alternative to incumbent LEC-provided special access. In late 2006, Sprint Nextel was reported to have plans to "deploy WiMax in ... two test markets at the end of 2007" and to expand across its spectrum footprint, which covers 85 percent of the country, by 2008. WiMAX [to transmit communications from the cell tower to the switching station] Sprint Nextel could cut network operating costs by two-thirds." Last month, Sprint announced plans to team with ClearWire "to jointly construct the first nationwide mobile broadband network using WiMAX technology," in hopes of providing "mobile broadband services in urban, suburban and rural markets."

Of course, there is no reason that the effects of this WiMAX deployment will be limited to the wireless backhaul market: Given its point-to-multipoint nature, "[o]nce wireless service providers deploy ... WiMAX, they could use those fat bandwidth pipes to offer T-1 alternatives to small and large businesses," and could even "deal telcos and other rivals yet another blow" by

⁹⁵ Infonetics Report at 57.

⁹⁶ Light Reading, Sprint Eyes WiMAX Backhaul, Sept. 21, 2006, available at http://www.lightreading.com/document.asp?doc_id=104349 ("Sprint Nextel is already planning to use its massive dominance in the 2.5 GHz spectrum band – the operator has 85 percent of the band in the 100 top markets in the U.S. – to provide high-speed WiMax services across the country by the end of 2008. [Sprint Nextel vice president of access technologies Ali] Afrashteh says that Sprint is very interested at looking at using the technology for backhaul as well. 'Alternative backhaul is important to us.'").

⁹⁷ Id.; see also Sprint's Secret.

⁹⁸ Id.

⁹⁹ See Sprint, Sprint Nextel and Clearwire to Partner to Accelerate and Expand the Deployment of the First Nationwide Mobile Broadband Network Using WiMAX Technology, available at http://www2.sprint.com/mr/news_dtl.do?id=17520.

providing competitive video offerings. 100 Some providers have already started down this path: Facilities-based TowerStream offers wireless service to small, medium, and large enterprises at speeds ranging from 1.5 Mbps to 1,000 Mbps in nine markets across the United States. 101

Wireline players have also begun to utilize WiMAX as a last-mile alternative. Competitive LEC Covad Communications, which has historically focused on xDSL and wireline T1 services, now "offer[s] businesses T1-class wireless broadband that delivers fast, symmetrical downstream and upstream speeds," providing "businesses a powerful alternative to standard T1 services." Speeds range from 768 Kbps to 100 Mbps, depending on the customer's needs, and service "can be installed and operational in three to seven days." ¹⁰²

2. Cable

Cable operators, too, are increasingly competing with incumbent LECs in the high-capacity transmission market. These providers enjoy relatively ubiquitous physical plant – including plant serving hotels and large office buildings in urban business districts – and therefore face very few barriers to competitive entry. As the Commission well knows, cable operators have for some time now been competing with LECs in the provision of residential telephony. In recent years, they have also come to compete in the enterprise markets. Moreover, they now stand poised to make substantial inroads into the wholesale market generally, and the growing wireless backhaul market in particular.

¹⁰⁰ See Sprint's Secret.

¹⁰¹ See TowerSteam, Small Business, available at http://www.towerstream.com/content.asp? TowerStream, Medium Business, available at http://www.towerstream.com/content.asp?enterprise; TowerStream, Enterprise, available at http://www.towerstream.com/content.asp?enterprise; TowerStream, Service Areas, available at http://www.towerstream.com/content.asp?enterprise; TowerStream.

¹⁰² See Covad Wireless Services: T1-Class Wireless Broadband Services for Business, available at http://www.covad.com/web/services/wireless/index.html.

Cable operators offer many varieties of business-grade telephone, internet, and video services using their existing fiber and coaxial plant.¹⁰³ These offerings include trunk lines for PBXs ranging from DS0 to ISDN¹⁰⁴ and Centrex service.¹⁰⁵ These are all services that non-facilities-based competitive LECs provide using special access. In other cases, the cable operator may self-provision the special access components of a large-scale commercial networking project, such as the wireless broadband network Cox Communications is developing for a group of Arizona cities.¹⁰⁶ The significance of such competition should not be underestimated, because this very type of cable competition played a critical role in the FCC's decisions to grant Qwest and ACS forbearance from certain types of regulation in the Omaha and Anchorage MSAs.¹⁰⁷

Multi-system operator Cox Communications, which competes in Qwest's region, offers a wide array of services that are the functional equivalent to special access service, provided by leveraging the capacity of its SONET fiber rings. Cox offers "Cox Private Line" transport services directly to enterprise users at bandwidths ranging from a single DS1 (1.544 Mbps) to

See, e.g., Comcast Workplace, available at http://www.comcast.com/corporate/shop/ business/comcast_workplace.html>; Cox Long Distance and Toll Free, available at http://www.coxbusiness.com/products/voice/longdistance.html>; Cox Dedicated Long Distance and Dedicated Toll Free, available at http://www.coxbusiness.com/products/voice/dedicatedlongdistance.html>.

¹⁰⁴ See Cox Digital Trunk, available at http://www.coxbusiness.com/products/voice/digitaltrunk.html>.

¹⁰⁵ See Cox Centrex Telephone, available at http://www.coxbusiness.com/products/voice/centrex.html>

¹⁰⁶ See Cox wins state contract, names MobilePro as wireless subcontractor, THE BUSINESS JOURNAL OF PHOENIX, Mar. 13, 2006, available at http://phoenix.bizjournals.com/phoenix/stories/2006/03/13/daily9.html

¹⁰⁷ See Qwest Omaha Order, 20 FCC Rcd at 19446 \P 62; ACS of Anchorage Order, 22 FCC Rcd at 1960 \P 2.

OC-192 (9.6 Gbps).¹⁰⁸ It also offers the same services to carriers under the name "Cox Carrier Access," making the full range of bandwidths available for use as customer loops and the three highest-bandwidth facilities available for carrier interconnection purposes.¹⁰⁹ Cox advertises that this product provides "high-capacity communications that set the standard for high-speed and high-quality digital transmissions at a cost-effective price."¹¹⁰ This offering is scalable and can be used to provide intra- or inter-network connectivity.¹¹¹ In addition to being offered at a full range of capacities, it can be configured in several ways — it can be channelized or provided as a full clear channel, multiplexed or not, and delivered to a single termination point or "fanned out to multiple locations."¹¹²

Similarly, Comcast offers a wide range of products for the enterprise and wholesale markets within Qwest's region. Last year, Comcast announced its intention to "leverage [its] unparalleled network to deliver video, voice and data services for the business marketplace."

Comcast announced then that it would invest some \$250 million in 2007 and \$3 billion over five years to better serve enterprise customers. The company also has begun to offer, on a wholesale basis, "cost-effective transport that can reach into new markets and scale at a

See Cox Private Line, available at http://www.coxbusiness.com/pdfs/CBS40200- PrvtLn_DS0605.pdf>.

¹⁰⁹ See Cox Carrier Access, available at http://www.coxbusiness.com/pdfs/cox_carrier.pdf

¹¹⁰ See Cox Carrier Access Service, available at http://www.coxbusiness.com/products/other/carrierservices.html.

¹¹¹ Id. ("Choose from multiple bandwidths to connect your network to your customer's location, to provide connectivity between your POPs, or to connect you with other serving wire centers. You may also select the right interconnection bandwidth you need to meet your capacity requirements for your demand set.").

¹¹² See Cox Carrier Access; Cox Private Line.

¹¹³ See Minneapolis-St. Paul Declaration at ¶ 18.

¹¹⁴ See id.

moment's notice"; this service "can be deployed quickly and efficiently with minimal wait and bureaucracy." ¹¹⁵ In short, the offering is ideal for the provision of service to business users of all sizes, and is a direct substitute for incumbent LEC special access service.

Cable operators are also beginning to realize their enormous, largely untapped potential to provide an alternative to incumbent LEC special access for wireless provider backhaul. Infrastructure providers believe that the "cable industry has a 'clear advantage' over the telcos to provide cell backhaul services." Cable entry into the market for backhaul of wireless traffic is by no means hypothetical: cable companies are offering such carriage today, and the services they are providing "are essentially identical to ILEC offerings." For example, a "small operator in previously rural Georgia," Hargray Communications, is "[u]sing [hybrid fiber-cable] plant to undercut incumbent telephone companies and backhaul the increasingly heavy load of mobile traffic." ABI Research predicts that, within five years, cable operators' revenues from other services including backhaul of wireless traffic will outstrip their revenue from the provision of residential video services – which currently accounts for two-thirds of their revenues. 119

¹¹⁵ See Denver Declaration at ¶ 51; Seattle Declaration at ¶ 53; Minneapolis-St. Paul Declaration at ¶ 55.

¹¹⁶ Cable Has Prime Cellular Backhaul Opportunity: Best Positioned, Suggests New Study, BroadbandReports.com (Oct. 20, 2006).

¹¹⁷ See Stratecast, Multi-media Wireless Backhaul: A Cable Operator Opportunity? (May 2007) at 15 ("Stratecast Backhaul").

¹¹⁸ See Jim Barthold, Cell Backhaul? Potential Business for Some; Cost Savings for Hargray, available at http://www.cable360.net/print/business/advancedsvcs/18361.html (July 12, 2006).

¹¹⁹ Cable Providers Could Look to Cellular Backhaul for Additional Revenue Stream, RCR Wireless News (July 31, 2007), available at http://rcrnews.com/apps/pbcs.dll/article?AID=/20070730/FREE/70727009/1008.

Finally, just like the wireline xDSL offerings mentioned above, formerly "residential" cable modem services offer a compelling alternative to incumbent LECs' DS1-capacity special access products for many small and medium-sized businesses. Cable operators now generally offer speeds topping 5 Mbps, significantly outpacing a DS1 link's 1.54 Mbps. Some cable providers offer much higher speeds on an as-needed basis. The availability of these low-cost, high-speed cable services severely undercuts arguments alleging a dearth of competition in the small and medium enterprise markets.

C. Future Trends

Of course, competition – at all capacity levels – will only grow more fierce as customers' needs grow. As the Commission has long recognized, provisioning becomes more and more feasible as a client's capacity needs increase. This is so because the revenues associated with providing higher-capacity offerings generally rise at a faster pace than do the costs of scaling next-generation facilities to operate at those higher capacities. Thus, as enterprises (including even small and medium-sized businesses) are coming to rely on video conferencing, file-sharing, and other high-bandwidth applications, and as the mobile wireless market pivots toward high-bandwidth data and video offerings, providers of all stripes are facing even greater incentives to deploy even more facilities and to compete ever more vigorously. As Infonetics puts it, "[o]perators are looking at alternative technologies, hoping to expand backhaul bandwidth using technologies that are either cheaper or provide more bandwidth [than wireline DS1s and DS3s]." 121

¹²⁰ See, e.g., TRRO, 20 FCC Rcd at 2616 ¶ 150.

¹²¹ Infonetics at 56.

As noted above, the industry-wide migration to more efficient, higher-capacity transmission facilities is being driven most of all by the exploding wireless market. Stratecast forecasts that the U.S. wireless backhaul market will almost double between 2006 and 2010, from \$3.1 billion to \$5.9 billion. FiberTower estimates that the backhaul market will grow to \$10.1 billion by 2010. This boom "has resulted in near-term plans to invest in mobile backhaul network upgrades," including "[s]olutions that allow for high-bandwidth transmission to be distributed on an MPLS network." The trend will continue:

As the industry migrates to third generation (3G) wireless networks and multi-media handsets, multi-media traffic is expected to grow exponentially and more bandwidth capacity will be needed between the cell tower and the mobile switching center, commonly known as wireless backhaul. In a 2.5G wireless network two T1 lines has been sufficient for wireless backhaul. This is poised for a change. 125

As capacity needs grow, copper DS1 facilities will be replaced by more scalable and flexible Ethernet services, which generally will be made available over the high-capacity fiber-optic facilities that the Commission has found to be replicable by competitors. As described above, wireline facilities are also being replaced by microwave and WiMAX networks that were barely in the planning stages when the Commission opened this docket.

Of course, as capacity needs increase, consumer revenues are expected to increase apace, providing ample capital to fund more next-generation backhaul networks. According to

¹²² Stratecast Backhaul at 10.

¹²³ FiberTower Corporation, JPMorgan 2006 Small/Mid Cap Conference Presentation at 8 (Nov. 15, 2006).

Yankee Group Research, Inc., Pseudowires Offer Wireless Carriers a New Option for Backhaul, Feb. 6, 2007, at 2 ("Yankee Report").

¹²⁵ Stratecast Backhaul at 5.

¹²⁶ See generally Yankee Report.

Stratecast, multimedia wireless subscriber revenues increased by about three times between 2004 and 2006 alone, ¹²⁷ and wireless data subscriber revenues can be expected to rise from about \$14.2 billion in 2006 to about \$36.7 billion in 2010. ¹²⁸

In sum, burgeoning capacity needs are forcing providers to shift to more efficient networks offering greater revenue opportunities, rendering competitive deployment even more feasible than it heretofore has been. At the same time, the end-user services giving rise to these capacity demands will continue to provide carriers with substantial revenue streams to justify investment in these next-generation transmission networks. Together, these trends are ensuring that the extensive deployment seen in today's high-capacity transmission market will pale in comparison to the inter-platform, high-capacity networks of the near future.

III. ARGUMENTS THAT SPECIAL ACCESS RATES HAVE HINDERED DEVELOPMENT OF THE WIRELESS SERVICE MARKET ARE SELF-EVIDENTLY MISGUIDED.

In the initial round of comments, Sprint, Nextel, and T-Mobile complained about the price of special access facilities under the pricing flexibility regime. They contended that wireless operators need facilities for backhaul from cellsites at locations not served by alternative suppliers of special access service. Apparently unwilling even to consider self-deployment to tower sites that the incumbent has absolutely no advantage in reaching, they argued that they have "very little competitive choice among suppliers of the special access links," that

¹²⁷ Stratecast Backhaul at 7.

¹²⁸ Id. at 8.

¹²⁹ See Comments of Sprint Corporation, WC Docket 05-25, at 3-8 (June 13, 2005); Comments of Nextel Corporation, WC Docket 05-25, at 9-14 (June 13, 2005); Comments of T-Mobile USA Inc., WC Docket 05-25, at 9-12 (June 13, 2005).

¹³⁰ Comments of T-Mobile at 7.

alternative vendors "simply do not provide service to every location in an MSA where [a wireless operator] requires such access facilities," and that "for carriers ... that rely heavily on DS1 channel terminations, the prospects for obtaining service from competing providers are extremely limited[, and are] ... exacerbated by the fact that ... cell sites frequently are located in out-of-the-way locations, such as roadsides." ¹³²

Less than a year before those comments were filed, the D.C. Circuit had reversed the FCC's decision to give wireless carriers access to unbundled elements, holding that wireless carriers were not impaired by their reliance on tariffed special access rates – the same rates that they again claim are too high here. Market data, in the court's view, showed "that existing rates outside the compulsion of § 251(c)(3) [i.e., special access rates] don't impede competition." ¹³³

If the wireless operators' complaints about special access prices in early 2005 had any validity, one would expect that wireless growth would have come to a halt, or at least noticeably slowed. In fact, just the opposite is true – the wireless market has continued to thrive, as demonstrated by growing network deployment and increasing benefits to consumers. Between 2004 and 2006, wireless operators continued to expand the reach of their networks despite wireless operators' sky-is-falling claims regarding special access. CTIA's most recent year-end survey finds that over the last two years U.S. wireless operators have added nearly 20,000 cellsites, an increase of 11.3 percent, with a year-over-year increase in 2006 of 6.5 percent. 134

¹³¹ Comments of Sprint at 6.

¹³² Comments of Nextel at 10.

¹³³ USTA II, 359 F.3d at 576. See also id. at 575 ("[W]ireless carriers' reliance on special access has not posed a barrier that makes entry uneconomic.").

¹³⁴ CTIA Semi-Annual Wireless Industry Survey Results, *available at* http://files.ctia.org/pdf/CTIA_Survey_Year_End_2006 Graphics.pdf> at 2, 9.

Notwithstanding special access pricing flexibility, more sites have been added in the last two years than in the first three years of PCS licensing, when price caps were fully in effect and incumbent LECs had no pricing flexibility.¹³⁵ Multiple mobile operators continue to build out. In 2006, 98 percent of the U.S. population lived in counties with 3 or more commercial mobile operators competing to offer service, up from 96.8 percent in 2004.

The FCC's annual reports on wireless competition over the last two years have continued to affirm that there is effective competition in the CMRS marketplace, and that consumers continue to expand their use of these offerings. The per-minute price of mobile telephone service has continued to fall, as measured by the average revenue per minute, from \$0.09 in December 2004 to \$0.07 in December 2005. Usage, moreover, continues to climb: During the period from 2004 to 2006, for example, the number of subscribers nationwide climbed 27.9 percent, from 182,140,362 to 233,040,781, and from December 2004 to December 2005, the average number of monthly minutes that subscribers used increased 27.4 percent, from 584 minutes per month to 740 minutes per month. These data belie any suggestion that special access rates are rendering wireless services too costly for consumers. Finally, any suggestion that the wireless providers cannot survive under present conditions is simply false. In 2006,

¹³⁵ In the three-year period 1994-96, a total of 17,221 sites were added (5096 in 1994, 4743 in 1995, and 7382 in 1996), while in the last two years, a total of 19,888 sites were added (7964 in 2005 and 11,924 in 2006). *See id.*

¹³⁶ Annual Report and Analysis of Competitive Market Conditions With Respect to CMRS, WT Docket 06-17, Eleventh Report, FCC 06-142, ¶ 2, 5 (Sept. 29, 2006) ("Eleventh CMRS Report"); Annual Report and Analysis of Competitive Market Conditions With Respect to CMRS, WT Docket 05-71, Tenth Report, FCC 05-173, ¶¶ 2, 5 (Sept. 30, 2005) ('.

¹³⁷ See id. at \P 158; Eleventh Report at \P 193.

¹³⁸ CTIA Semi-Annual Wireless Industry Survey Results, *available at* http://files.ctia.org/pdf/CTIA_Survey Year End 2006 Graphics.pdf> at 2.

¹³⁹ Eleventh CMRS Report, Appendix A, Table 10, at 106 (Sept. 29, 2006).

Sprint Mobile reported about \$1.8 billion in profits, while T-Mobile reported \$5.94 billion in profits. 140

In sum, special access pricing flexibility has not hindered the ability of the wireless industry to grow, to increase the level of service to subscribers, to add cellsites, to expand network deployments, or to grow its revenues. Complaints raised by some wireless providers about the alleged harm imposed by special access rates should be summarily rejected.¹⁴¹

IV. THE HIGH-CAPACITY TRANSMISSION MARKET DOES NOT EXHIBIT SUPRACOMPETITIVE PRICES OR PROFITS.

The central inquiry in this proceeding is "whether the special access pricing flexibility rules which the Commission adopted in 1999 have worked as intended." As described in the previous section, the high-capacity marketplace has become increasingly competitive, just as the Commission predicted. Equally important, however, special access customers have received tangible benefits from that competition in the form of falling special access prices. As demonstrated below, this drop is clear upon consideration of the prices that special access customers actually are paying; other information, such as generally available tariff rates, ARMIS data, or cost model outputs, is either misleading or simply irrelevant.

See CNN, Fortune 500 Profiles: Sprint Nextel, available at http://money.cnn.com/magazines/fortune/fortune500/snapshots/1258.html; Light Reading Europe, Carrier Scorecard: T-Mobile, available at http://www.lightreading.com/document.asp?doc_id=118608.

¹⁴¹ If wireless providers such as Sprint Nextel truly believe special access services to be the cash cows they describe to Congress and the Commission, one might well wonder why Sprint and Nextel acted so quickly upon their recent merger to voluntarily divest their local wireline assets, and why Alltel took similar action right after acquiring Valor Communications Corp. See Sprint Nextel, Sprint Nextel Completes Spin-Off of Local Telephone Business to Focus on Mobility Products and Services (May 18, 2006), available at http://www2.sprint.com/mr/news_dtl.do?id=12060; Alltel, Alltel Spins Off Wireline Business and Merges It with VALOR, Creates New Rural-Focused Wireline Company (Dec. 9, 2005), available at http://www.alltel.com/corporate/media/news/05/dec/n411dec0905a.html.

¹⁴² Public Notice at 1.